



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

36957

646.3314

Job Sheet 168230



Part No: 646.3314

Job Qty: 10 ea

Part Name: Blade



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 11/13/17

Job Tracking No:

Due Date: 11/28/17

Created By: Linda Lacelle

Type: Stock

Description:

Note: DWG REV A IPP REV:A NEW ISSUE 12/11/07 JFS VERIFY BY: JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup	Run	Workcenter / Supplier	Lead Time	
90	Start up Operation	10 Ea		11/27/17	0.00	0.00	Start Up Machining		
100	Bandsaw	10 pcs		11/27/17	0.00	0.39	Bandsaw1		
110	CNC Vertical Machining	10 pcs		11/27/17	0.14	9.62	HAAS 1		
120	QC	10 pcs		11/27/17	0.00	0.00	QC2		
130	QC	10 pcs		11/27/17	0.00	0.00	QC8		
140	Outsource	10 pcs		11/27/17			MEI001-VC		
150	Packaging	10 pcs		11/27/17	0.00	0.00	Packaging2		
155	QC	10 pcs		11/27/17	0.00	0.00	QC5		
160	SprayPaint	10 pcs		11/28/17	0.00	0.31	Spray Paint		
170	QC	10 pcs		11/28/17	0.00	0.00	QC14		
180	Packaging	10 pcs		11/28/17	0.00	0.00	Packaging3		
190	QC21-SA	10 Ea		11/28/17	0.00	0.00	QC21		

Part Op 100 - Cut Blank at 5.050"

Descriptions: 110 - 1-Machine per folio FB147

140 - HEAT TREAT AS PER DWG, SEE NOTE #3

160 - PRIME AS PER DWG, SEE NOTE #4

180 - IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***

Meteor P038843

JAN 23 2018

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	MSTEEL-A2-B0.500X1.250	4	53	0	0

Part Specifications

Specifications could not be found.

Plex 11/14/17 6:47 AM dart.boucher.sylvie

DART
AEROSPACE
S031906



Blade

PART NO: 646.3314
Original Serial #: S031906
Revision:
Operation:
Change No:

Start up Operation

01/12/18

Job No: 168230

Dart Aerospace Ltd.
1278 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

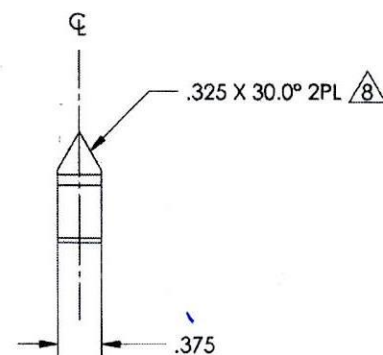
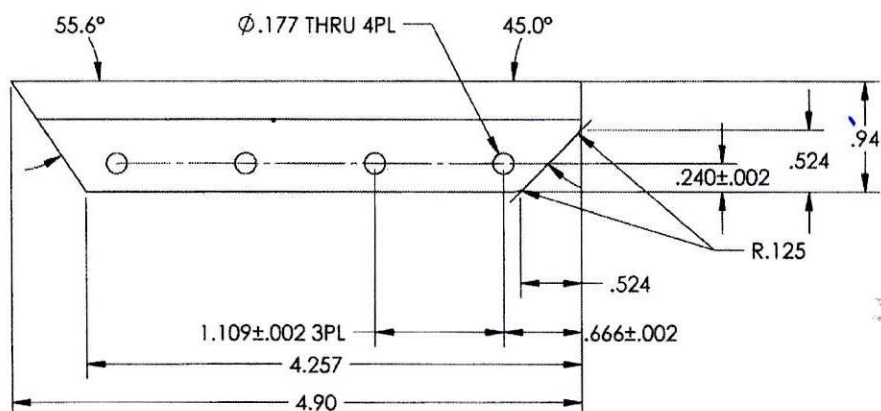
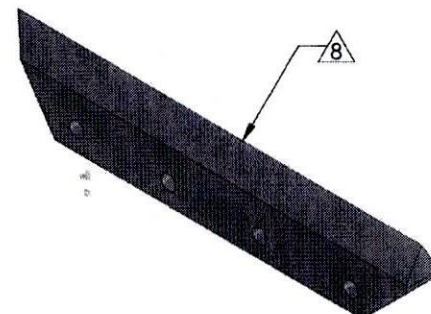
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FOR AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 168230

DAS
30
9-89

NOV 16 2017

(2) K 108



646.3314

ORIGINAL DATE: 08-28-08
DRAWN BY: J. HUFF
S. HUFF
P. BRAVO
DRAWING APPROVAL:
P. BRAVO
DATE: 08-28-08
CONTRACT NO.:

DART
AEROSPACE
AFICAL INDUSTRIES, INC.
3030 ENTERPRISE CT., SUITE A
VISTA, CA. 92081
(760)-724-5300

UPPER CUTTER ASSY

SIZE: B	CAGE CODE: 07M26	DWG. NO: 646.3300	REV: A
SCALE: NONE			SHEET: 6 OF 8

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐																				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐																				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐																				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐																				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :																							
Misidentified ☐	Past Due ☐																								

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
								Lead hand / Supervisor Approval Verification																	
								QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																	
OTHER : _____																									



Dart Aerospace Ltd.
1270 Aberdeen St.
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO038843**

Supplier: MEI001-VC
Metcor Inc.
560 Boul. Arthur Sauve
Saint-Eustache
QC
J 5 P 5, 8 Canada
Phone: 450 473 1884
Fax: 450 491 5498

PO No: PO038843

PO Date: 1/23/18

Due Date: 1/30/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Phone:

Via: Ground

Paym. Terms: Net 30

Freight Terms:

Special Comments:

E-MAILED
JAN 26 2018

RECEIVED \$

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613 632 5200

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	170134	RBA9937-5	Tail Rotor Nut Wrench "C" Model (Rb Design) HEAT TREATING 1- Issue P/O to Metcor; P/O _____ RC 45-47 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER Metcor to ship directly to Groupe Altech	Firmed	1/30/18	2 pcs	0 pcs	2 pcs	\$75.00/pcs	\$150.00
Line Item Note Parts made from 4130N Sheet 138 Ship Directly to Groupe Altech										
2	170135	RBA9937-5	Tail Rotor Nut Wrench "C" Model (Rb Design) HEAT TREATING 1- Issue P/O to Metcor; P/O _____ RC 45-47 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER Metcor to ship directly to Groupe Altech	Firmed	1/30/18	2 pcs	0 pcs	2 pcs	\$75.00/pcs	\$150.00

Line Item Note Parts made from 4130N Sheet 138
Ship Directly to Groupe Altech

Plex 1/26/18 8:31 AM dart.lavoie.chanta

PURCHASE ORDER

Items										
Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
8	168231	646.3315	BRK HEAT TREAT AS PER DWG 646.3300 HEAT TREAT TO 80-62 RC ROCKWELL HARDNESS PART ARE MADE FROM AISI 4140 STEEL PLEASE NOTE: DETAIL COPING REQUIRED	Firmed	1/30/18	10 pcs	0 pcs	10 pcs	\$3.324468/pcs	\$33.24
9	168232	646.3316	BRK HEAT TREAT AS PER DWG 646.3300 HEAT TREAT TO 80-62 RC ROCKWELL HARDNESS PART ARE MADE FROM AISI 4140 STEEL PLEASE NOTE: DETAIL COPING REQUIRED	Firmed	1/30/18	10 pcs	0 pcs	10 pcs	\$3.324468/pcs	\$33.24
10	168266	646.9711	BRK HEAT TREAT AS PER DWG 646.9700 HEAT TREAT TO 80-62 RC ROCKWELL HARDNESS PART ARE MADE FROM AISI 4140 STEEL PLEASE NOTE: DETAIL COPING REQUIRED	Firmed	1/30/18	40 pcs	0 pcs	40 pcs	\$3.32447/pcs	\$132.98
									Grand Total: \$1,212.50	
Order Notes										
Procurement Quality Clauses A005 right of entry A012 chemical and physical test report A016 personnel qualification A017 raw material identification (as applicable) A022 Apical Processing A024 process certifications A026 certification of material conformance A041 quality management system A042 part notification by supplier A043 retention of quality documents A048 counterfeit parts avoidance, detection and disposition program A049 supplier awareness Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.										

Print 1/26/18 8:31 AM dart.lavoie.chantal

METCOR INC.

500 BOULEVARD ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 2A5

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450-491-5654

Certificat de Conformité

Certificate of Compliance

BON DE TRAVAIL CHARGEMENT

order

324794

324794

CLIENT / customer: 218

DART AEROSPACE

1270 ABERDEEN

RAWKESBURY

ON K8A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

RAWKESBURY

ON K8A 1K7

COMMANDE DU CLIENT customer no	CLASSIFICATION PIÈCE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
35843	N/A	A2		

SPECIFICATIONS DU PROCÉDÉ

processing specifications

VAC HARDEN

HARDEN AND TEMPER

EXIGENCE / requirement	SPECIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
HARDNESS	58 - 62 HRC	5	58 - 60 HRC

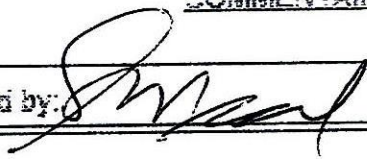
QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
34	30	848.3013
		(12) 848.3013 JOB. 188220
		(12) 848.3015 JOB. 188222
		(10) 848.3314 JOB. 188230
		(12) 848.3315 JOB. 188231
		(10) 848.3316 JOB. 188232
		(40) 848.3711 JOB. 188268

* VALISE

5/2/18

COMMENTAIRES / comments

APPROUVÉ par / Approved by:



METCOR
7

DATE: 2018-01-31

APPROUVÉ

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
324794	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
38843	N/A	A2		
SPÉCIFICATIONS DU PROCÉDÉ processing specifications				
VAC HARDEN				
HARDEN AND TEMPER				
EXIGENCE / requirement	SPÉCIFICATIONS / specified		TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
HARDNESS	58 - 62 HRC		5	59 - 60 HRC
QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description		
94	30	646.3013 (12) 646.3013 JOB. 168220 (12) 646.3015 JOB. 168222 (10) 646.3314 JOB. 168230 (10) 646.3315 JOB. 168231 (10) 646.3316 JOB. 168232 (40) 646.9711 JOB. 168266 1 VALISE		

COMMENTAIRES / comments

VAC HARDEN 1800F, 1:30 HR
DOUBLE TEMPER 400F, 2 HRS

Heat treatment (HT) was performed with equipment that meets the requirements of requested specification. All HT operations were performed in compliance with the required HT specification and all verifications have been performed and documented. No unauthorized changes were performed in regards to the HT. We certify that the material was manufactured, sampled, tested and inspected in accordance with the material specification and the purchase order and was found to meet the requirements.

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Le traitement thermique (TT) a été fait en utilisant des équipements en conformité avec la spécification demandée. Toutes les opérations de TT ont été faites en conformité avec les requis de la spécification demandée et toutes les vérifications et les tests demandés ont été faites et documentés. Aucun changement n'a été faite par rapport au TT. On certifie que le matériel a été fabriqué, échantillonné, testé et inspecté en accord avec les spécifications du matériel et le bon de commande et le matériel rencontre les exigences spécifiées.

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METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
324794	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

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APPROUVÉ par / Approved by:

Isabelle C

SAGE: C-10
Technicien



DATE: 2018-02-01